



Published by: MILWAUKEE AREA ATARI USERS

Price \$1.00

Volume 1 Number 6

May 1982

Your Atari Computers
 Poole / Mc Huff / Koeh
 Osburn / McGraw Hill
 1982 Com 1982

NEXT MEETING

SATURDAY, May 15th, 1982

* * * * *

FEATURES THIS ISSUE

<<<<<<< * >>>>>>>

BASIC COMAPRISON

THE OTHER SIDE OF THE FENCE

BRING YOUR PROGRAMS FOR THE CLUB LIBRARY

HELP IDENTIFY GOOD ATARI SOFTWARE

(and/or had)

FILL IN THE QUESTIONNAIRE IN THIS ISSUE

* * * * *

APRIL MEETING NOTE and
WHAT'S HAPPENING AT THE MAY MEETING

In the business session of the April meeting, Secretary/Treasure Larry Leskovsek reported that our paid membership level has reached 43. President Gary Nolan again indicated that VIDEO EXCHANGE is planning classes in BASIC. No date has been set. Gary said BIT-3 Corporation will manufacture an 80 column board for the 800. The product will be called FULL VIEW 80 with a 80 x 24 display. Characters are formed with a 8 x 10 matrix. It will support upper/lower case plus line drawing graphics to draw business forms. The card mounts in slot three of the memory cage. (more details will be available at the May meeting). RCA Service Corporation is now a authorized service center for Epson. Their local center is located at 3235 N 124th Street. Several members demonstrated their latest efforts in game-manship. Thanks to all that shared will us. After the meeting, the club's library became the center of attention.

May's meeting plans include a tutorial on monitors - why is my machine a 40 column machine - what can I use with the new 80 column cards - what is bandwidth. See Tom Mill's latest - *REBEL FIGHTER*. Hardware on display will include a 48K-400, OKIDATA's 82A printer and a ZENITH ZVM-121 monitor.

BASIC COMPARISON

by Paul Kemner

(Editor's note: This article is reprinted from the newsletter published by the ATARI COMPUTER CLUB OF TOLEDO)

One of the advantages that the ATARI computer has over other micros is that it has a real Operating System. Someone writing a language for the ATARI can use the Operating System to control important functions like input/output, screen editing, graphics display, etc. Since this is easier than writing these functions from scratch, a language can be produced and sold for much less. Also, ATARI owners don't need to buy an expensive hardware extension - a 'language card', to run a different programming language. Since languages don't require extra hardware to run, it isn't necessary to buy a certain language to run machine code programs. Which brings me to my main subject - ATARI Microsoft Basic...

Since I've worked with many different computers, and one of my main interests is high-level computer languages, I'm in a good position to compare them. I was loaned a review copy of ATARI Microsoft Basic by the Video Spectrum of Bowling Green. While I had it, I tried it out, timed some test programs with it, compared many features, etc.

As has been said before, Microsoft's main advantage is that it is Microsoft Basic, but that's also its main disadvantage. It is a very full-featured version of Microsoft, which makes it more powerful than the Microsofts (from now on abbreviated as 'M') which are available on Radio Shack, Apple, etc. However, 'M' is one of the older dialects of BASIC and does not have many of the advantages of the more recently designed cartridge Basic (abbreviated 'CB'). The other Basic available for ATARI is Basic A+, which is an extended version of 'CB', and fully compatible with it.

It's been said that 'M' is a much faster version of basic than 'CB' is. While this may be true in some cases, I've found it isn't true in all of them. 'M' takes longer to load, and in string handling (one of its highly-touted features), it can be very slow. Consider this:

```
5 REM Microsoft Basic
10 DIM ABC$(255)
20 FOR I=1 TO 255
30 ABC$(I)="...(50 characters)..."
40 ? I, FRE(0)
50 NEXT I
```

(continued next column)

```
5 REM Cartridge Basic
10 DIM ABC$(12750)
20 FOR I=1 TO 12710 STEP 50
30 ABC$(I)="...(50 characters)..."
40 ? INT(I/50)+1, FRE(0)
50 NEXT I
```

These programs are exactly equivalent in what they do, but 'M' version takes over 60 seconds, and the 'CB' version takes 20 seconds. Any time there are a lot of strings in memory, 'M' shifts them around to make room when a new string assignment is made. 'CB' uses a fixed place for a given string, so no time is wasted moving it around. This also makes it possible to use strings for other important functions, like storing data in ASCII form, or keeping machine language subroutines. This just isn't possible in 'M'. Also, the 'M' version of the program takes more memory. It uses 13200 bytes, while the 'CB' version uses 12917 bytes. On top of this, just getting the language loaded takes more memory. With 'M' loaded in a 48K system, you have 21020 bytes left for programming, while 'CB' with DOS leaves 32274 free. The amount of memory that is free in 'M' makes it difficult to take advantage of some of the features like numeric arrays over 3 dimensions, and also using graphics modes like 7 and 8, which require a lot of memory.

While there isn't space for a full comparison of features, included is a comparison table I've made. I haven't included commands which are equivalent in all versions, with different names; the most obvious of these is LEFT\$(A\$,5) 'M', which is the same as A\$(1,5) in 'CB'.

In summary, I'd say that if you have a lot of text-only programs written for the PET, Apple or TRS-80, Microsoft may be worth getting. Its use of memory will make it difficult to make full use of many of the numeric features in serious programs. Cartridge Basic is a very powerful basis, though, and it may be best for most people. If you want a basic which has the features of Cartridge Basic, and most of the extended features of Microsoft, Basic A+ may be the best choice for you. It also has Player-Missile graphic commands, and many other additions.

(comparison table on next page)

 BASIC COMPARISON TABLE

Program Entry & Debugging

Syntax Check	CB A+
Auto Line Numbering	M
Deletion of Lines	A+ M
Renumber	A+ M
Err & Trace	A+ M
Indentation of Loops & If statements	A+

Looping & Decision Making

While - Endwhile	A+
If-Else (single line)	A+ M
If-Else-Endif (multi line)	A+

Controller Functions

Stick / Strig	CB A+
Hstick / Vstick	A+
Paddle / Ptrig	CB A+
Pen (light pen)	A+

System Functions

Dpeek / Dpoke	A+
Reserve Memory	A+ M
Move Memory	A+ M
Locate	CB A+
1-line Functions	M

Time (Delay)

After	M
Sound (requires length	M
Time (since reset)	M
Time\$	M
Wait	M

Input / Output (disk)

Verify	M
Rename file	A+ M
Lock/Unlock file	A+ M
Erase file	A+ M
Disk Directory	A+
Record read/write	A+
Binary read/write	A+

Printing

Lprint	CB A+
Tab	A+ M
Spc (print spaces)	M
Print Using	A+ M

Strings

Find Characters	A+ M
+ (concatenation)	A+ M
String\$ (repetition)	M
String Arrays	M
Unlimited Strings	CB A+

Mathematical Functions

Clog (log base 10)	CB A+
Sqr (square root)	CB A+
Tan (tangent)	M

Keyboard Input

Inkey (single key input)	M
Input (with prompt)	A+ M
Line (inputs 1 line)	M

UNCLASSIFIED ADS

(MILATARI will post ads for its members at no charge. Others \$1.00 per issue. Send ad info to newsletter editor by 1st Saturday of month)

WANTED: Articles for this newsletter. How about it gals and guys? Send your ideas, programs, reviews, hot tips, whatever to the editor.

SCORE KEEPER: The MILATARI club needs a score keeper to keep track of ours clubs high scoring members. See me at the next meeting or give me a call to volunteer -- editor

NEWSLETTERS

Newsletters which are received from other groups will be cataloged in our club library and are available for any member at our monthly meeting. We are currently receiving newsletters from:

the Atari Computer Association of Orange County, Ca.
 the Madison Wisconsin Atari Users
 the Michigan Atari Computer Enthusiasts
 the West Valley ATARI Users Group
 the Twincity ATARI Interest Group
 the ATARI Computer Club of Toledo
 the Waterloo ATARI users Group

We thank those groups for their participation in newsletter exchange.

(Note: This article is from the May issue of the M.A.C.E. newsletter)

THE OTHER SIDE OF THE FENCE

by Bob MacDowell

War and Peace

Welcome to what I hope will become a regular column in the MACE newsletter. I call it "The Other Side of the Fence" because, of all things, a fruit. You see, there are the Atari owners, and there are Apple owners. And betwixt them there is a fence of hardware and software incompatibility, and even social snobbery. Well, I own an Apple II, which puts me on The Other Side of the Fence. I program the Atari 800 professionally for a company in Troy called K-Byte. You may have heard of us: we make K-razy Shootout.

The topic for this month is War and Peace. It's about why Apple and Atari owners, at least the more fanatical ones, don't like each other, and why they should.

Craig Chamberlain wrote a rather good article about Microsoft Basic in the February newsletter, but I feel he used the last page of the article primarily to cut down the Apple. He showed the time that the Apple and Atari BASICs took to do a benchmark. Apple won by about 2%, so he wrote, "Yes, the APPLE is faster but remember that no benchmark is totally fair." Well, Craig, if benchmarks aren't totally fair, what is? The reason Apple won is because Applesoft is designed for speed, not for power or ease of use. More powerful languages will run slower, because they're more complex. Further down, Craig said that Apples can't turn off DMA. He's right. You see, Apples don't do DMA in the first place, so they can't turn it off. (DMA means stopping the microprocessor to give the video circuitry time to get information from memory. In other words, DMA slows down your processor.) Anyway, the Apple doesn't need DMA to slow it down. It's slow enough already. Craig remarked at the end, "... ATARI is the way to go." I think we'll all agree with him there, at least in terms of what we want to do with a computer.

the IBM-PC? Or the Exidy Sorcerer, the TRS-80 Model 3, TRS-80 Model 2, TRS-80 Pocket, Sinclair ZX80, NEC, Xerox, PET, CBM, VIC, TRS-80 Model 16, Osborne 1, VideoBrain, Hewlett-Packard, Apple III, Northstar, Alpha Micro, Altair, Interact, Kim-1, Hitachi, Aim-65, Texas Instruments, Heathkit H-8, H-88, H-89, H-11, and that's off the top of my head. The point is, with all those computers out there, why do Atari owners pick on the Apple, and Apple owners pick on the Atari? Why not determine which of the computers listed above is the greatest waste of silicon and then everybody pick on it? For that matter, why pick on any computer at all?

Perhaps people who buy Apples or Ataris were so unsure about which of the two to get that they must cut down the computer they didn't get just to reassure themselves that they made the right decision. There has always been a lot of haggling between Atari and Apple owners about which computer is better. Apple owners started it. When the Atari 400/800 were first introduced, the Apple community's reaction was WOW! Another T.V. game. They figured who'd waste \$995 on an 8K computer made by a video game company? After all, it graphics COULDN'T be better than the reference standard Apple hi-res graphics. Besides, why trust a company who did not provide technical documentation?

Eventually, Atari did release their documentation. Apple owners were very interested in these manuals, since they had noticed certain phenomena in Star Raiders and Basketball which they couldn't figure out. Unfortunately, the Apple people were having some problems with the terminology. "What's vertical blank? And what are interrupts? What do color registers do? What are these funny things called Players? And Missiles? 1.8 MHz? Not bad. Holy cow, lookitall those graphics modes. Who's ANTIC? Hey, look, Atari's coming out with a new home computer. It's called POKEY. ..."

Apple owners quickly figured out that the Atari was up-and-away the most awesome graphics machine that could be afforded. What everyone failed to realize, in their jealousy or whatever, was that the Atari and the Apple are really quite similar. This involves getting into some history, so here goes.

A long, long time ago, in 1973, there existed the first computer club - the Homebrew Computer Club.

Back then, the way you built a computer was to get an 8080 microprocessor and build a processor board. Then you built - and I mean scratch built, not like Heathkit - a couple of memory boards and an input/output board or two. Plug all these into a common bus, add a teletype terminal and a front panel (to enter programs - ROM didn't exist back then), cross your fingers, and apply power. If nothing blew up, you could throw switches on the front panel so as to program in a bootstrap program which would let you read in an operating system off of a sophisticated storage device like paper tape. Of course, it had to be a small operating system; you only had 1 or 2 k of memory.

Anyway, one member of this computer club was named Steve Wozniak ("the Woz" for short) and he worked for Atari. When he built his computer, he made it very different from everyone else's. He used the brand-new, faster, and more powerful 6502 processor, which he had used at Atari, instead of the 8080. He designed it around new, state-of-the-art 4k dynamic memory chips and left provisions for use of 16k dynamic chips which were supposed to become available in a few years. He left room in his computer for three banks of these memory chips, for a total of 12k, or 48k with the 16k chips. He also tried using ROMs to hold, permanently, not just the operating system, but the BASIC language as well. Woz was not content to use the latest in technology, he had to design his computer as no one had done before. He added sound to his computer. But to top it all off, he added a video display to his computer. His idea was to have the video circuitry use main memory for its display memory. The other members of the computer club were astonished. Video terminals were not unheard of, but video COMPUTERS were. The processor had immediate access to all of the screen memory, and could change any of it with a single instruction. But Wozniak's coup de grace was graphics. Oh, not just ordinary graphics, that would be merely exotic. They were COLOR graphics!!

A colleague of the Woz, Steve Jobs, saw that such a machine could be manufactured and sold to the general public, for a handsome profit! Jobs turned out to be right. Woz's machine was the first personal computer. Now,

if you think Woz's machine was the forerunner of the Atari 800, you're half right. After Atari was sold to Warner Communications in 1976, somebody high up decided to improve on what Wozniak had done and offer it for sale, which Atari did. By the way, Steve Wozniak left Atari before then and joined with Steve Jobs to found Apple Computer.

The Apple was first meant to be a hobbyist's machine. It was designed by a hobbyist, Steve Wozniak, for a hobbyist, Steve Wozniak. So the Apple should be a rather good machine for someone who likes to poke around under the hood with an oscilloscope, or wants to make his own plug-in board for a special purpose. Matter of fact, the Apple is designed for such creativity; that's what the peripheral bus along the back of the motherboard is for.

Apple Computer soon discovered that the hobbyist market was not the most lucrative, and they decided to install a more powerful BASIC language into the Apple II and sell it as the Apple II Plus. Their target was the consumer and business markets. The Apple made a rather nice business computer, when outfitted with an optional 80 column video display and the right software. It was a machine in the personal computer price range that did most of the things small businesses needed.

Atari targeted the 400/800 at the same markets as Apple did. However, the 800 really wasn't very successful as a business computer, despite the nicer keyboard. I/O was too slow, the 800 couldn't have 80 columns until just recently, and didn't have the large quantity of business software available that the Apple II or III, or the TRS-80 Model II had. That's why Atari cancelled the 815 dual disk drive. It was meant for the business market, which never materialized.

Atari attracted a lot of hobbyists (including me) with its incredible graphics, but the consumer market is where the Atari really shines. It's cheaper than a comparable Apple or TRS-80, and it works well for the person who wants to slap in a cartridge and play games, or the person who wants to develop programs or do personal word processing on it, or anyone in between. All the software development and testing at K-Byte is done on Ataris.

What I'm getting at is that they're both good machines and that you can't, or at least shouldn't,

knock either one of them. Realize that if either computer is used for something it's not good at, you'll get a bad impression of it. Picture an Apple trying to perform a rendition of Beethoven's fifth symphony out its little internal speaker. Or someone trying to do voice recognition with an Atari. Or a PET owner attempting color graphics.

Whenever someone calls your Atari a game machine, inform him that he is narrowminded and that he should have more respect for other people's equipment. Don't start into the superiority of Atari graphics, as that will surely start a major argument. When someone insults your equipment, don't insult their equipment. Just say something that will make them feel like a jerk for saying anything against your machine. When you get to the bottom line, there's no real difference between an Apple owner who has a Z-80 softcard and an Atari owner who has 256 colors, as long as their both happy with and use what they've got.

Okay, I'm done with War and Peace. But wait, did I say 256 colors? Yes, I did, but how? Easily, with a GTIA chip. And all on the screen at the same time. 16 colors, 16 luminences. In BASIC, yet. If it'll fit in this month's newsletter, it'll be there, otherwise wait until next month.

Ⓜ



BYTES and NIBBLES

NEED A 'FORTH' (FIG-FORTH THAT IS!)

The Bay area ATARI users group of San Jose, California has available free, an excellent version of extended FIG-FORTH for the ATARI 400/800. It has a constant stack display at the top of the screen, a player/missile graphics component, full screen editor, etc. If you are interested in getting a copy, send a disk in an appropriate package to the Bay Area ATARI User Group, 4029 Payne Avenue, San Jose, Ca. 95117 with stamps for return postage. They will duplicate the disk on yours and mail it back to you with your stamps. No documentation will be shipped with it.

HAM radio/Atari users group

If you have the time and money to support your personal computer habit AND you are also a HAM radio operator this message is for you.

A group of HAM radio operators are trying to organize a network of ATARI users. The group will be exchanging newsletters with MILATARI. If you are a HAM radio operator you should contract:

Jack Mc Kirgan II (WD8BN6)
4749 S.R. 207 N.E.
Washington C.H., Ohio 43160

SUPPORTING BUSINESSES

The following businesses offer a discount to members of MILATARI. You must show your valid MILATARI membership card to receive your discount.

MICROCOMPUTERS and MAGIC
256 1/2 West Broadway Street
Waukesha, Wis 53186
(414)548-0700

MICROAGE COMPUTER STORE
2675 North Mayfair Road
Wauwatosa, Wis 53226
(414)257-1100

LIBERTYVILLE VIDEO and COMPUTER CENTER
Attn: Steve Singer
Cambridge Plaza
Libertyville, Ill 60048
(312)367-8660

MILWAUKEE AREA ATARI USERS GROUP
OFFICERS

President:

Gary Nolan
11230 W. Bobolink
Milwaukee, Wi 53225
(414) 353-9716

VICE-PRESIDENT:

Nick Liberski
1350 S. Elm Grove Road
Brookfield, Wi 53005
(414) 786-8434

SECRETARY/TREASURER:

Larry Leskovsek
1958 Michigan Ave
Waukesha, Wi 53186
(414) 547-0249

LIBRARIAN:

Wayne Peters
1335 S. Sunny Slope Road
Brookfield, Wi 53005
(414) 786-3771

EDUCATION:

Linda Scott
9910 West Metcalf Place
Milwaukee, Wi 53222
(414) 466-2314

NEWSLETTER:

David Frazer
2305 Barberry Court
Waukesha, Wi 53186
(414) 542-7242

CORRESPONDENCE SHOULD BE FORWARDED TO:

Milwaukee Area ATARI Users Group
c/o David Frazer, Newsletter Editor
Waukesha State Bank
P.O. Box 648
Waukesha, Wi 53187-0648

25

This newsletter is written and printed by members of the Milwaukee Area ATARI Users Group, an association of individuals with a common interest in using and programming ATARI computers. This group is not affiliated with the Atari company, nor any other commercially oriented organizations. Any logos, trademarks or company names are used either with permission or as an informal method of referring to a product or company.

All articles are written and donated by the membership. Opinions expressed in this publication are those of the individual author and do not necessarily represent, nor reflect, the opinions of the Milwaukee Area ATARI Users Group, nor those of any other commercial or non-commercial organizations. Any article appearing in this newsletter may be reproduced, providing credit is given to the author and to the Milwaukee Area ATARI Users Group.

MEMBERSHIP INFORMATION

Membership is open to individuals who have an interest in using and programming ATARI computers. The membership includes the subscription to this newsletter and free access to the users' program library. The membership fee is \$12.00 per year. Single newsletters are \$1.00. A guest may attend one meeting at no charge.

SOFTWARE EVALUATION FORM

(All software evaluations will become part of our library)

Your name _____

Program name _____

Where purchased _____ Price _____

Cassette or disk _____ Transferable to disk Y/N ____

Program language(circle) Machine/Basic/Assembler/Pascal/Other

Memory requirements _____ K Require special hardware Y/N ____

Program requires: (circle all that apply)

PADDLES JOYSTICKS KEYBOARD PRINTER MODEM OTHER(specify)

If program is a game;

Time limit for game Y/N ____

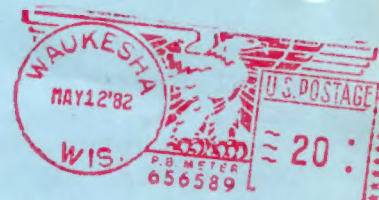
Increasing difficulty Y/N ____

Multiple players Y/N ____ number of players ____

Quality of program:(circle) POOR FAIR GOOD EXCELLENT

Would you recomend this program to others Y/N ____

Milwaukee Area ATARI Users Group
c/o David Frazer, Editor
P.O. Box 648
Waukesha, Wisconsin 53187-0648



User group meets the 3rd Saturday of each month beginning at 3:30 PM.
Meetings are held in the community room of the Waukesha State Bank located
at 110 Madison Street, Waukesha.